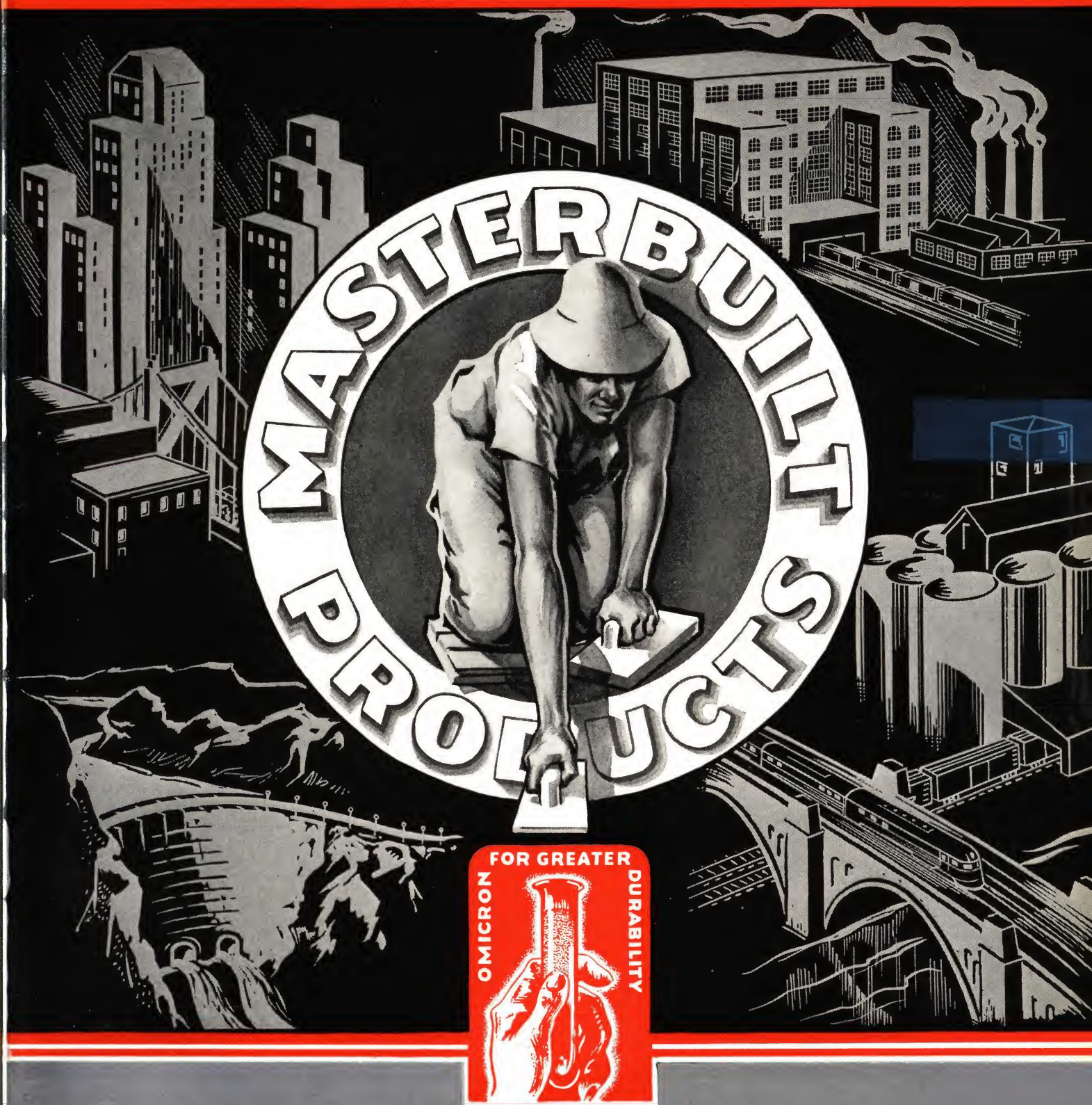


TECHNICAL TREATMENTS FOR CONCRETE AND MASONRY



*The Master Builders Company*  
*Cleveland Ohio*

In Canada - The Master Builders Co., Ltd. Montreal • Toronto





5  
15

Thirty years of field experience and laboratory research in concrete and masonry treatments stand back of Master Builders specifications and products. This specialized knowledge is "on call" for architects and builders.

• • • INDEX • • •

Type of Product	Trade Name of Product	Purpose of Product	Page No.
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For Workable Low Water Ratio Concrete	POZZOLITH	Eliminates up to 20% of mixing water, yet improves placeability, increases density.	6 and 7
Concrete Floor Hardeners	MASTERPLATE	For Super Heavy Duty Concrete Floors.	12
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LIST OF BRANCH OFFICES AND REPRESENTATIVES ON BACK COVER



*The Master Builders Company*  
CLEVELAND, OHIO





# OMICRON

## THE IMPORTANT INGREDIENT FOR DURABILITY IN CONCRETE

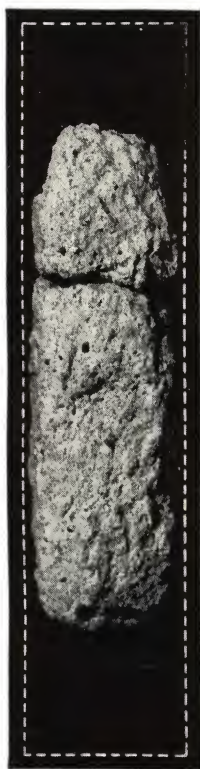
● *Omicron*, discovered in 1927 by Master Builders Research Laboratories, performs the unique function of *reducing the volume of water needed to provide an ideal placeability in all concrete or mortar mixes*. The importance of this development cannot be overlooked, for it marks a new and radical advance in the effort materially to increase the practical life of concrete structures. This sharp reduction in the volume of water in concrete or mortar mixes results in greatly increased *density*, reduced *shrinkage*, a sharp increase in *strength*, a stubborn resistance to the disintegrative attack of *freezing and thawing* and *corrosion*.

### DURABILITY

● This ultimate goal of all concrete or mortar designers, is best achieved through a reduction in the volume of water. *Omicron* products provide the architect and the engineer with greater control of the density and water-tightness of the concrete or mortar used in the construction of their jobs.

### STRENGTH

● This reduction in the volume of water needed to obtain ideal placeability results in a natural increase in strength; field and laboratory tests show for concrete and mortar made with *Omicron* products a much greater strength than plain mixes.



UNTREATED

### POZZOLANIC ACTIVITY

● Important to many projects is the added resistance *Omicron* products build into concrete and mortar . . . resistance against corrosion and attack by natural alkalis and acids present in the soil and air. *Omicron* preserves the increased density imparted to concrete and mortar by Master Builders products.

### INCREASED PLACEABILITY

● With much less water! From scores of engineers, architects and contractors have come unsolicited substantiation of the claims made for *Omicron* products. Of major importance is the fact that under actual job conditions *Omicron* products have enabled engineers to create from unusually dry mixes concrete and mortar of exceptional placeability.



WITH  
POZZOLITH

## The Effects on Mortar of 150 Cycles of Freezing and Thawing

● Here are pictured the results of 150 cycles of freezing and thawing on 1:5 mixes tested by Loring O. Hanson, registered professional engineer, University of Wisconsin. The specimen to the right was fortified with Pozzolite, an *Omicron* product. Note the comparative rate of disintegration; break tests for strength showed the Pozzolite specimens 75 per cent stronger than the plain specimens. Dotted lines indicate original size of specimens.

The results of these tests are the answer to the question, "How long will concrete with *Omicron* last?" 150 cycles of freezing and thawing are an accelerated test equivalent to many years of severe exposure.







# OMICRON MORTARPROOFING

**A**UTHORITIES agree that cracks between the mortar and brick are the major cause of leakage. *All mortars shrink, whether patented masonry cements, standard cement or lime or combinations of cement and lime, waterproofed or otherwise. Shrinkage is inevitable, because more than twice as much water is required for workability than is needed to hydrate the cement. By a reduction in water volume without the loss of workability, shrinkage can be checked.*

*Omicron Mortarproofing produces an ideally workable mortar with much less water—and reduces shrinkage beyond the critical point at which the bond breaks.*

## ● CHECKS INITIAL SHRINKAGE

Mortarproofing checks the initial shrinkage that occurs during the important first hours of setting. Result—shrinkage cracks prevented.

## ● CHECKS EFFLORESCENCE

The puzzolanic action of the Omicron ingredient in Mortarproofing reduces the soluble salts which cause efflorescence originating from the cement.

## ● REDUCES WATER ABSORPTION

The stearate ingredient of Mortarproofing assists bond, checks capillarity, and renders pores water-repellent.

## ● INCREASES PLASTICITY

The plasticizing action of Mortarproofing so increases the workability that the mason must automatically reduce water or add sand—or do both—to obtain proper consistency.

## ● IMPROVES ADHESION

The plasticizing effect of Mortarproofing increases the extent of bond.

## ● INCREASES STRENGTH

Reduced water-cement ratio increases the bond, shear and compressive strengths of the mortar.

**Specification:** (Non-Colored) Mortar for all masonry shall be composed of 1 part cement, 1 part hydrated lime (or lime putty), 6 parts sand; (or 1:2:9; or an approved masonry cement, or other mix as designated) to which shall be added Master Builders Omicron Mortarproofing in the proportions of 2 lbs. per each sack of cement and 2 lbs. per each cu. ft. of lime in exact accordance with the directions of the manufacturer, THE MASTER BUILDERS COMPANY.



● Erie County Jail, Buffalo, N. Y. Architects—Green and James, Buffalo, N. Y. Contractors—The John W. Couper Co., Buffalo, N. Y.



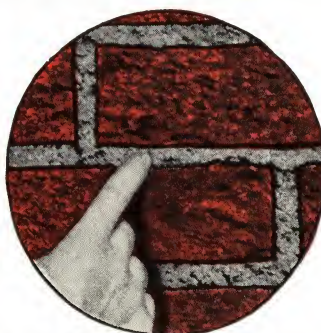
● Outhwaite Homes Project, Cleveland, Ohio. Architects—Maier, Walsh and Barrett, Cleveland, Ohio. Contractors—Geo. A. Fuller Co., New York City, N. Y. Masonry Contractor—C. O. Struse, Philadelphia, Pa.



● Oregon State Capitol, Salem, Oregon. Architects—Trowbridge & Livingston, New York, N. Y. Asso. Archts.—Whitehouse & Church, Portland, Oregon. Contractor—Ross B. Hammond, Portland, Oregon.



● Pennsylvania Railroad Station, Newark, N. J. Architects—McKimm, Meade & White. Contractors—Geo. A. Fuller Co., New York, N. Y.



● Actual photograph of ordinary mortar joints. Note shrunken, cracked mortar, permitting rapid water seepage and destruction.

"I Check  
Mortar  
Shrinkage"



● Actual photograph shows how Omicron Mortarproofing preserves the bond—makes possible weatherproof brick walls.







## OMICRON MORTARPROOFING CHECKS INITIAL SHRINKAGE—THAT MEANS TIGHT, LEAKPROOF WALLS

REDUCES SHRINKAGE						REDUCES ABSORPTION					
From Columbia University Test Nos. 2356-57						Mix—1:3					
Mix	Shrinkage in Inches 2"x4" Specimens			Bond Strength*		Percent absorption by weight	1 hr.	2 hrs.	1 day	Totally immersed	Decreased absorption
	24 hrs.	7 days	28 days	28 days	28 days						
1:1:6	.027	.030	.030	66.8	704	Untreated.....	1.4	1.8	2.5	3.4	...
1:1:6 with M.	.017	.019	.020	72.7	740	Mortarproofing	0.7	0.9	1.1	1.8	47%
1:2:9	.022	.024	.023	73.0	490	Average—4 standard					
1:2:9 with M.	.018	.014	.015	90.8	569	Stearate Pastes.	0.65	0.875	1.3	1.85	47%
1:2:11	.010	.014	.015	74.9	462						
1:2:11 with M.	.010	.014	.015	74.9	462						
Average of 3 specimens. *Pounds per sq. inch											

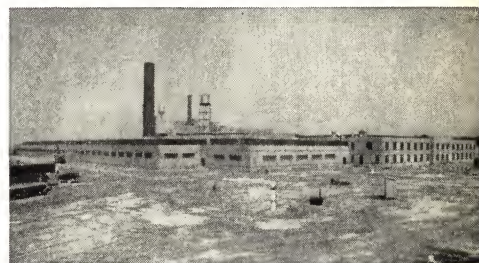
● Mt. Pleasant Regional High School, Providence, R. I. Architect—Irving S. Gorman, City Hall, Providence, R. I. Contractors—Turner Construction Co., Providence; C. T. Wills, New York, N. Y.



● The Rockefeller Apartments, New York City. Architects—Wallace K. Harrison and J. Andre Foulhoux, New York City. Contractors—Barr, Irons & Lane, New York City. Masonry Contractor—Micwell Co., New York City.



● Art Center, Wilmington Society of Fine Arts, Wilmington, Del. Architects—Whiteside-Brown, Wilmington, Del. Contractors—Turner Construction Co., Philadelphia, Pa.



● Industrial Rayon Corporation, Painesville, Ohio. Architects—Wilbur Watson & Associates, Cleveland, Ohio. Contractors—Hunkin, Conkey Construction Co., Cleveland, Ohio.

## MORTARPROOFING CHECKS CRACKING IN STUCCO

As every architect knows, the troublesome shrinkage in mortars occurs *during the first 24 hours*. This early shrinkage results in minute, often invisible cracks that later widen and deepen under the attack of weathering and con-

tribute greatly to the untimely disintegration of stucco walls.

Omicron Mortarproofing reduces early shrinkage by 30% . . . or beyond *the critical point where cracks occur!*

## COLORED MORTARPROOFING

In Colors—Through exhaustive analysis of the mortar color problem a special process for producing finely divided colors ground to a colloidal fineness was developed which eliminated the objections to old style colors, namely: fading, weakening of joints and increased shrinkage.

Colored Omicron Mortarproofing joints *do not fade*, actually increase compressive strength over plain mortar and greatly *reduce shrinkage*.

(Send for color card, with detailed specifications.)

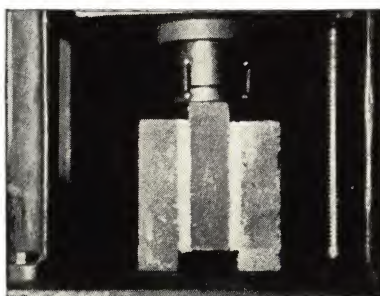
**SPECIFICATIONS:** Mortar for brick, (stone, tile, terra cotta) shall be proportioned 1 part cement, 1 part lime, 6 parts sand (or other mix as designated), to which shall be added Master Builders (insert the name of the color) Omicron Mortarproofing, in exact accordance with the directions of the manufacturers, THE MASTER BUILDERS COMPANY.

### "O.M." GREATLY INCREASES SLUMP



6 1/4 Gal.	Mix 1:3	6 1/4 Gal.
0 Lbs.	Water per cu. ft.	2 Lbs.
2 1/4 Inches	Mortarproofing	8 Inches
	Slump	

### BOND-SHEAR TEST



3,500 Lbs. Pressure Required to Break  
Mortarproofed Bond



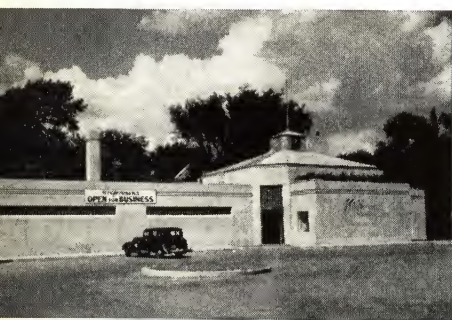




# POZZOLITH



● Westinghouse Electric Flood Control Project, East Pittsburgh, Pa. Works Architect—John George. Works Engineer—J. E. Webster.



● Wolferman's Store, Kansas City, Mo. Engineer—E. W. Tanner, Kansas City, Mo. Contractor—Long Construction Co., Kansas City, Mo.



● International Nickel Company Chimney. Pozzolite Concrete. Built by Custodis Canadian Chimney Company.

● Since the introduction of the water-cement ratio law governing the strength and durability of concrete, the necessity for using comparatively low water ratio mixes has been generally recognized. Of greatest importance, however, has been the necessity of producing such mixes with a degree of workability which would insure their easy and economical placing and compacting. Pozzolite, *and much less water*, produces concrete of exceptional placeability—a dense, durable concrete highly resistant to the disintegrating attack of freezing and thawing and corrosion. Pozzolite, added to any practical mix, “automatically” forces a reduction in the amount of gauging water—for if the gauging water is not reduced the mix will be too “wet” for practical purposes. To any mix, even a very dry mix, Pozzolite imparts a plasticity and cohesiveness that make for speedy, economical placing, for freedom from honeycombing and segregation. On a growing list of the nation’s important projects Pozzolite is daily demonstrating its ability to build better, more placeable concrete *with much less water*. An added feature of extreme importance to many jobs is the early effective pozzolanic activity of Pozzolite which adds a stubborn resistance to attack by corrosion.

## SPECIFICATION

Master Builders Pozzolite shall be added to the mix in proportions of 2 lbs. per sack (cubic foot) of cement, exactly in accordance with the manufacturer’s directions.

## WHY LESS WATER?

In a cubic yard of concrete, approximately two and one-half gallons of water per sack of cement are required to hydrate the cement. Any water in excess of that amount must be regarded as “placing” water, merely providing sufficient workability to make the mix placeable. This excess water occupies about 10% of the total space in concrete. As it evaporates, it causes the concrete to shrink, as exemplified by the cracked surface of the concrete shown to the right. Pozzolite permits a reduction of as much as 20% of this excess water! Result—much more durable concrete.







# LESS WATER, YET MORE PLACEABILITY IN ALL CONCRETE MIXES . . . MORE DURABLE, WATERTIGHT CONCRETE

## INDEPENDENT LABORATORY TESTS

THOMPSON & LIGHTNER CO., Inc.  
Boston, Mass.

Standard Compression Test of Specimens made in our Laboratory in investigation of Pozzoloth, Machine Mixed.

MIX—Dry and loose volumes Average of 3—6"x12" Specimens

PLAIN MIX W/C .803; Slump 5 inches

1 part Cement 1833 2470 3380 3537

2.2 part Scituat Sand 1937 2670 3397 3557

3.8 part 1" Scituat Gravel

POZZOLITH MIX W/C .803; Slump 5 1/2 inches

1 part Cement 1937 2670 3397 3557

2.36 part Scituat Sand 1937 2670 3397 3557

4.09 part 1" Scituat Gravel

★Note: Pozzoloth mix contains more aggregate.

ABSORPTION TESTS MADE BY W. M. DUNAGAN  
Iowa State College, Ames, Iowa

PLAIN MIX POZZOLITH

Note proportions 1c:5.4 agg. 1c:5.4 agg.

W/C Gal./sack 6.1 5.25

Slump 1 1/2" 5"†

% Absorption 6.3 5.3

% Decrease in Absorption 16%

†Note increased workability in spite of water reduction.

Note proportions 1c:3.7 agg. 1c:4.2 agg.★

W/C Gal./sack 5.25 5.25

Slump 7" 7"

% Absorption 6.1 5.3

% Increase in Aggregate 13 1/2%

% Decrease in Absorption 13%

★Note increased leanness of mix.

CANADIAN INSPECTION AND TESTING CO., LTD.

All batches made to slump 5" to 5 1/2" Compressive Strength at 7 and 28 Days

PLAIN Mix "A" lbs. 7 day 28 day

Cement 365 1165 1670

Sand 1410

Gravel 1930 2110 2585

Water 304 290

PLAIN Mix "B" lbs.

Cement 445 2110 2585

Sand 1340

Gravel 1970 2530 3340

Water 290

PLAIN Mix "C" lbs.

Cement 525 2530 3340

Sand 1270

Gravel 1990 293 3845

Water 293

PLAIN Mix "D" lbs.

Cement 600 4020 4910

Sand 1185

Gravel 1990 272

Water 272

POZZOLITH Mix "A" lbs. 7 day 28 day

Cement 370 1585 2095

Sand 1415

Gravel 1940 2795 3265

Water 277

POZZOLITH Mix "B" lbs.

Cement 445 2795 3265

Sand 1350

Gravel 1975 3570 4525

Water 265

POZZOLITH Mix "C" lbs.

Cement 525 3570 4525

Sand 1275

Gravel 2000 4020 4910

Water 266

POZZOLITH Mix "D" lbs.

Cement 600 4020 4910

Sand 1185

Gravel 1990 272

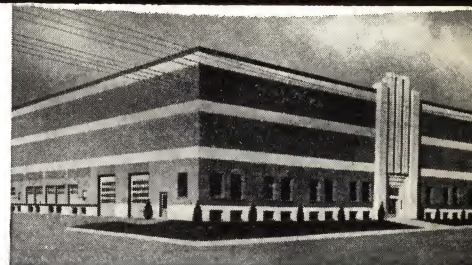
Water 272

Average Increase in Strength with Pozzoloth 30% 25%

ABSORPTION TESTS

"The concrete mixes with Pozzoloth had an average absorption of 15 to 20 per cent under that of corresponding plain concrete mixes. The 1:2 and 1:3 mortar mixes containing Pozzoloth had an average decreased absorption of approximately 20 per cent."

Report of Loring O. Hanson,  
Registered Professional Engineer  
The University of Wisconsin,  
Madison, Wisconsin.



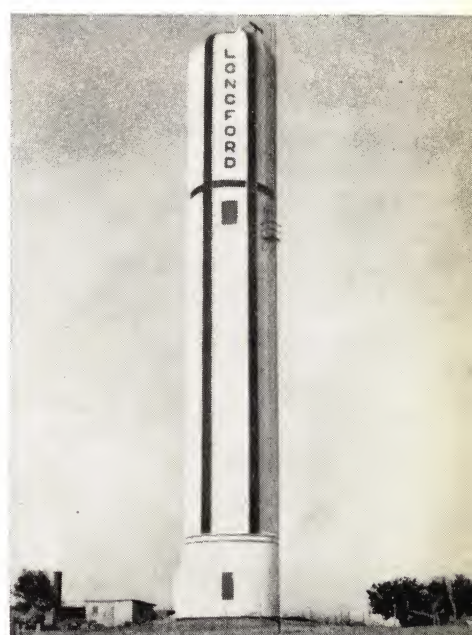
● House of David Cold Storage Warehouse, Benton Harbor, Mich. Architect—William Wright. Associate—R. F. Huxman.



● Des Moines Sewage Disposal Plant, Des Moines, Iowa. Engineer—J. W. Tippee, Des Moines, Iowa.



● Aquatic Park Pavilion, San Francisco, Cal. Supt. of Construction—LeRoy B. Frazier.



● Longford Watertank, Longford, Kan. Engineers—Paulette & Wilson Engr. Co., Salina, Kan.

"We have used Pozzoloth in the concrete on several projects and find that it is possible to materially decrease the volume of water required to produce a placeable concrete."

Morris-Knowles, Inc.,  
Pittsburgh, Pa.

"I have not seen a finer piece of concrete work than the contractor produced on the Mansfield Sewage Disposal Plant with Pozzoloth. Not one area of honeycombed concrete showed on the surface and no excessive amount of puddling was required."

George B. Sowers,  
Consulting Engineer,  
Cleveland, Ohio

"On the St. Charles filtration plant job Pozzoloth enabled us to make a substantial reduction in water while maintaining full strength and increasing the plasticity and workability of the mix."

Russell & Axon,  
St. Louis, Mo.



POZZOLITH MIX

PLAIN MIX

## 200 CYCLE FREEZING AND THAWING TEST PROVES POZZOLITH BUILDS DURABILITY

The illustration to the left shows the results of a 200 cycle freezing and thawing test. This test indicates the comparative durability of plain and Pozzoloth-fortified concrete. After the test, the Pozzoloth cylinder had lost only 2% in weight . . . the plain cylinder lost 22.9% ! Figuring 8 cycles per year, this test approximates 25 years of outdoor exposure.

IN CANADA

**The Master Builders Co. Ltd.**  
TORONTO, ONTARIO







# THE *New*

WITH THE NEW KUROKROME  
ELEMENT" IN COLORED

- Two significant improvements in the Colormix Method of installing and finishing colored concrete releases for wide and general use, something builders have long wanted—colored concrete floors, *easy to install correctly*.

By means of a simple technique, the New Colormix Method overcomes the difficulties that have handicapped colored floor construction and does so at a new low cost which sets a record for economy in this class of decorative floors. This is accomplished by improvements in Colormix, which is now in dry form, more efficient and easier to use, and by the New KuroKrome process of curing, protecting and finishing.

Laying a colored floor is greatly simplified by the New Colormix-KuroKrome Method and the difficulties due to the "human element" are practically eliminated. While first-class workmanship in the finishing operation always pays and its absence heretofore meant indifferent results, with the New Colormix-KuroKrome Method, satisfactory results are secured even where only average workmanship is available, because imperfections and variations in color are overcome by the KuroKrome process.

As soon as the fresh colored concrete surface has hardened—in any event not later than the morning following the finish troweling—this remarkable penetrating surface-sealer, colored to match the Colormix, is brushed into and over the fresh floor. The KuroKrome curing coat dries rapidly producing the early curing and protection that assures best results.

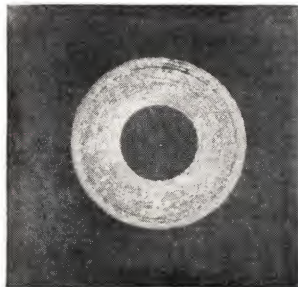
These important results are described on opposite page.

## NEW COLORMIX MORE EFFICIENT

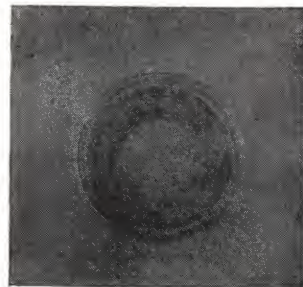
Colormix is now produced as a fine dry powder of intense dyeing power, producing deep, stable shades with a minimum quantity of inert oxides. In addition to the clear, lime-proof color, it contains Master Builders Omicron, the unique water-reducing agent, which eliminates 30% of the excess water used in ordinary floor mixes. This assures much higher strength, minimum porosity, freedom from shrinkage cracking. In other words, durability built into the floor along with the life-long beauty.

## KUROKROME—FAR GREATER WEAR-RESISTANCE

PAINTED SURFACE



KUROKROME FINISH



- Under severe abrasion, KuroKrome is many times more resistant to wear than the best paints or coatings.

Abrasion quickly wears through the painted surface (see left view) but merely polishes the resistant KuroKrome finish (see view to the right). That is why KuroKrome floors withstand unusual abuse and wear.

### COLORMIX AND METALICRON COLORS



NILE GREEN



FRENCH GRAY



TERRA COTTA



SEAL BROWN



BATTLESHIP GRAY



BLUE



PERSIAN RED



TILE RED



RUSSET



MAROON

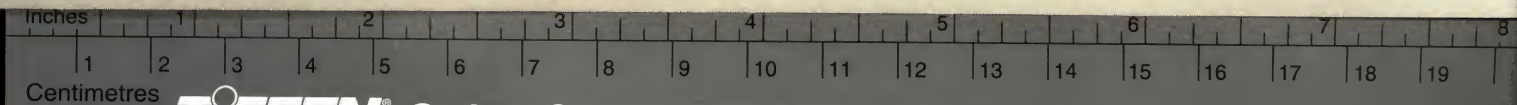
Also Available in Black and White



- Bright cheerful colors . . . easily kept clean . . . no repeated repainting. Surface resists action of strong cleaning solutions.



*The Master Builders Company*  
CLEVELAND, OHIO



**TIFFEN** Color Control Patches

© The Tiffen Company, 2007







# COLORMIX FLOOR

## METHOD OVERCOMES THE "HUMAN CONCRETE FLOOR CONSTRUCTION

### KUROKROME DRIES RAPIDLY

- (1) Providing an air-tight seal which holds the moisture in the concrete; no other means of curing compares with this method in efficiency. (Tests show it second only to moist closet curing in its beneficial effect on concrete);
- (2) Checking any chance for salts or efflorescence to mar the color;
- (3) Dyeing out any imperfections or non-uniformity;
- (4) Preventing absorption of stains from plaster droppings, tobacco-juice, oil or dirt, by which all new floors are beset for weeks;
- (5) Providing the smooth, non-slip surface essential in a decorative floor.

This vital protection is afforded in one easy operation—through the action of this remarkable material, KuroKrome, unique in its affinity for wet concrete. By reason of its early application to the fresh floor (where any ordinary coating would be destroyed) it becomes a unit part of the floor and produces a surface with uniform, deep, non-slip color.

And finally, when the floor is opened to use, the KuroKrome finish does not have to be polished or waxed. The ordinary building paper which has been laid to protect it from the traffic encountered in building operations is removed, dirt on the surface brushed, scraped, or washed off with clear water, and the new Colormix Floor is ready for use. Only if a high gloss finish is desired need it be polished; in either condition—semi-gloss or high gloss,—it is not slippery.

### SPECIFICATION

Cement finish floors shall be colored and hardened by the use of (insert number of pounds) of Master Builders (insert color selected) Colormix per sack of cement, used exactly in accordance with the directions of the manufacturer. When the floor has hardened sufficiently so that it will not be marred, but not later than the morning following after installation, the surface shall be given one coat of Master Builders KuroKrome of corresponding color, applied exactly as per manufacturer's directions. The floor shall then be covered\* with ordinary building paper until ready for use.

\*Blue floors should not be covered with paper.

NOTE: Specify KuroKrome No. 2 for floors subject to solvents such as oils, gasoline, naphtha, hydrocarbons, etc., as in gasoline stations, garages, laboratories, etc.

### COLORS

Colormix and KuroKrome are supplied in the colors shown on page eight.

### AMOUNT REQUIRED

Colormix shall be used in the following proportions per sack of cement: Battleship Gray, Black, and Russet, 5 lbs. All other colors, 10 lbs. KuroKrome—1 gal. (U.S.A.) covers 500 sq. ft.



● This Masterbuilt colored concrete floor in the power room of the world's largest and widest hot and cold strip mill represents the ideal floor for the show places of industrial plants.



● The next morning after final troweling, before the fresh, full-colored floor starts to dry, one coat of KuroKrome in corresponding color is applied with a soft bristled brush. Its affinity for the wet concrete, of which it becomes a part through penetration, provides perfect curing, complete protection. KuroKrome is insurance of uniform color and perfection in the finished job.



● Colored concrete floors in office buildings pay dividends. This floor pays for itself every two years by eliminating annual or semi-annual painting.







• Colored Masterbuilt floor in Otis Elevator Co. office, Yonkers, N. Y. The custom in the past was to paint such floors. Good practice now calls for building color into the floor and thus save the yearly repainting costs.



• Metalicron floor and service area of station of Gulf Refining Company, Miami, Fla. Waterproof, hardened and colorfast. Protected against stain and corrosive action of oil and grease drippings.



• Dycrome provides character and unusual beauty for concrete floors, new or already installed. Especially popular is the duo-tone effect, shown above, which is possible with Dycrome.

## COLORED METALICRON

### HARDENS AND COLORS FLOORS BY LOW COST, DUST-COAT METHOD

• Colored Metalicron is a dry compound of superfine colors, Omicron and tough, wear-resisting aggregate. It produces an integrally colored wearing surface that is non-absorbent and highly wear resistant.

Colored Metalicron type of finish has been standard for over 20 years. Thousands of these floors from 5 to 20 years old are in service today. The method of installation is well known to experienced floor finishers and therefore can be specified with full confidence.

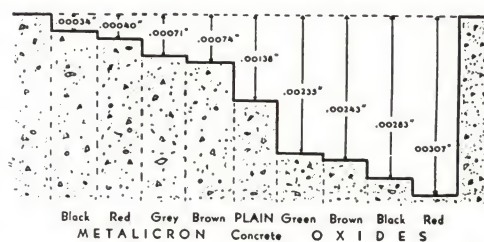
Initial cost less than that of two coats of paint—year by year cost incomparably lower.

**CHARACTERISTICS**—1. Two or three times more wear resistant than plain cement finish.

2. Omicron ingredient protects colors from clouding and efflorescence.

3. Omicron ingredient resists attacks of alkali solutions and corrosive agents.

**STRENGTH**—Abrasion tests show that Colored Metalicron floors are two to three times more wear-resistant than plain cement finish. Twenty-eight-day concrete slabs subjected to abrasion show the relative strength of—(a) plain concrete, (b) concrete colored with high grade commercial oxides, and (c) concrete colored and hardened with Colored Metalicron.



Tested and Reported by James H. Herron Company, Testing Engineers and Chemists, Cleveland, Ohio

**USES**—Recommended for use either in separate top finish or where topping is omitted and base is finished off as a wearing surface ("monolithic").

For

Office Buildings  
Loft Buildings

Garages  
Basements  
Sidewalks

Service Stations  
Salesrooms

**NON-SLIP**—A special formula of Colored Metalicron with non-slip aggregate is manufactured for use in finishing colored ramps, corridors, stairs, wet areas where slip-proof surface is desirable.

#### SHORT SPECIFICATION

The concrete floors shall be colored and hardened with Master Builders' Colored Metalicron using no less than 30 lbs. of Colored Metalicron and 22 lbs. of cement for each 100 square feet of surface, applied in accordance with the directions of THE MASTER BUILDERS COMPANY.

\*If non-slip feature is desired, insert words "non-slip."

## DYCROME

### COLORS AND HARDENS FLOORS IN PLACE

• Dycrome provides an unusual technique for permanently coloring and hardening existing plain concrete floors. Finish provided is permanent because colors are etched into the surface. Colors include Flemish Oak, Weathered Bronze, Cordovan Brown, Palmetto Green, Nile Green and Jade. Hardens the surface—resists wear and dusting. Cost over period of even few years only a fraction of cost of repeated paintings which wear rapidly.

**SPECIFICATION—Existing Floors**—The concrete floor finish shall be colored and hardened with Master Builders' Dycrome in accordance with the directions of the manufacturer, THE MASTER BUILDERS COMPANY.

**Installing New Floors**—Mortar for floors to be Dycromed shall be proportioned (mix desired), to which shall be added two pounds of hydrated lime for each bag of cement in the mix.







# MASTERSEAL

## COLORLESS SURFACE WATERPROOFING

● Masterseal waterproofs brick, tile, stucco and concrete without changing the appearance of the surface. It retards disintegration, resists the corrosive action of smoke and fumes and prevents sanding, staining and efflorescence. Two types of Masterseal are available—*All Weather Masterseal* for use on wet or dry surfaces and Masterseal No. 1 and No. 2 for use on dry surfaces only and in temperatures above 50 degrees F.

*All-Weather Masterseal* may be applied to wet or dry brick surfaces in temperatures down to freezing. It speeds up completion of the job, lowers labor costs, has 2½ times the covering capacity of conventional colorless waterproofings; designed for use on brick surfaces only. For stone, stucco, etc., use Masterseal No. 1 or 2. The latter must be applied in temperatures above 50 degrees F. No. 1 darkens light colored surfaces slightly; No. 2 wholly invisible.

**SPECIFICATION—WET OR DRY WALLS**—All brick surfaces as indicated on plans shall be treated with Master Builders All-Weather Masterseal, surface waterproofing, following the directions of the manufacturers, THE MASTER BUILDERS CO.

**SHORT SPECIFICATION—ON DRY SURFACES ONLY**—All surfaces of brick, tile, stucco, stone and concrete as indicated on plans shall be treated with Master Builders (Insert Masterseal No. 1 or No. 2) colorless surface waterproofing following the directions of the manufacturers, THE MASTER BUILDERS CO.

# STEAROX "30"

## WATERPROOFING PASTE FOR MASS CONCRETE AND MORTAR

● Stearox "30" is a pure stearate waterproofing paste containing 30% stearic acid. This was made possible by the discovery of a new process of introducing straight concentrated stearic acid into concrete without the aid of useless adulterants.

F. O. ANDEREGG, AUTHORITY ON INTEGRAL WATERPROOFING, STATES:

"The stearate or stearic acid ingredient is the most effective constituent and the value of commercial waterproofing pastes and powders seems to depend largely upon their stearate content.

"Analyses of commercial waterproofing pastes show great variations in their stearate content. It has been the practice to add substances such as alkalis and ammonia to waterproofing pastes. *A pure stearic acid, if it can be made easily soluble in the mixing water, would be the most desirable.*"

F. O. Anderegg, Ph.D.,  
Consulting Specialist on Building Materials.

To insure receipt of full value, the following specification is advisable: "The waterproofing shall be free of non-stearate ingredients, and not less than .6 lbs. of 30% Stearic Acid Paste (or corresponding increased proportion of paste of lesser stearic acid content) shall be used per sack of cement."

Stearox "30" is *pure, unadulterated, and quickly distributed in the mix.*

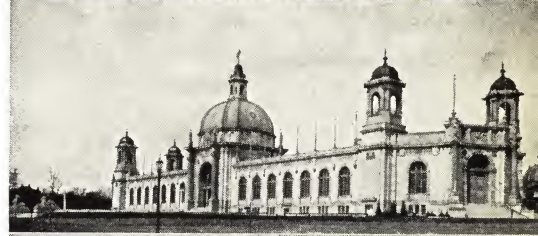
**ADVANTAGES:** Since authorities agree that stearate content controls waterproofing value, Stearox "30"—which contains 30%—has indisputable advantages when compared with other preparations. One of the most widely used of these contains only 16% stearic acid—another only 3%.

Water absorption of concrete is reduced 60% when Stearox "30" is applied. Tests show not only the lowest total absorption but the lowest rate of absorption, which is equally important.

**ECONOMIES:** Only 3.6 lbs. of Stearox "30" are required to provide standard waterproofing value. This compares with 9 to 36 lbs. of other types.

Handling and transportation charges are lower, because Stearox is more compact than other waterproofing preparations.

	1 Hr.	1 Day	Decreased absorption
Plain 1:3 mortar			
Stearox "30" (.6 lbs. per sack cement)	.9%	1.5%	60%
6 brands paste Avge. (1½ lbs. per sack cement)	.3%	.6%	
6 brands powder Avge. (2 lbs. per sack cement)	.53%	.617%	59%
	.7%	1.1%	26%



● Masterseal used to waterproof and preserve these large buildings at the Canadian National Exhibition, at Toronto Ontario.

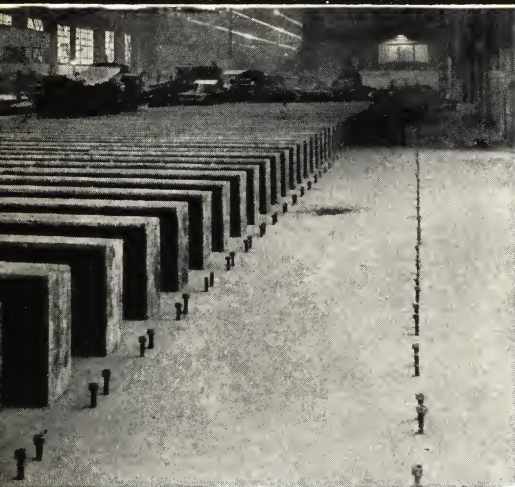


● Penik and Ford's Grain Elevator—Cedar Rapids. Stearox "30" Used Throughout.

**SPECIFICATION:** All mass concrete shall be waterproofed integrally by the use of not less than 3.6 lbs. of Master Builders Stearox "30" waterproofing paste per cubic yard of concrete used exactly in accordance with the directions of the manufacturers, THE MASTER BUILDERS CO.







Large areas of Masterplate floor stand up under tremendous weight and abrasive wear in this division of the Wheeling Steel Co. plant, at Steubenville, Ohio.



High resistance to abrasive wear under almost constant shipping and trucking proves Masterplate installations such as this at the Welch Grape Juice Company plant, Westfield, N. Y., an economical investment in permanent flooring.



#### SPECIFICATION

All surfaces as indicated on plans shall be given two coats of Master Builders (insert color) Mastertex, waterproof cement coating, following the directions of the manufacturers, THE MASTER BUILDERS COMPANY.

## MASTERPLATE

### THE "DEEP METAL" CONCRETE FLOOR FOR HEAVY INDUSTRY

● The Masterplate floor is a dense, low-water ratio concrete finish with up to 120 lbs. of tough wear-resisting metallic aggregate per 100 sq. ft. This is 2 to 4 times more metal than it has been possible to use by the best previous methods. Masterplate is the 'Super Concrete Finish' that heavy industry has long sought.

This increased amount of metal is made possible by an exclusive new water-reducing plasticizer which makes it easy and practical to incorporate 120 lbs. of Masterplate in the surface of a 'dry mix.'

The operation is further facilitated and results made sure by Master Builders perfected mechanical technique which automatically secures the proper results; much of the costly, variable manual work is eliminated.

Where 30 to 50 pounds of regular Metallic Hardener have been the limit that could be used heretofore (attempts to use more have led to use of an excessive amount of water, which cuts strength and density), you can now have 80, 100 or 120 lbs. of Masterplate—many times more wearing service!

Masterplate is a combination of Master Builders pure water absorbent, carefully graded Metallic Hardener plus Omicron to give resistance to corrosive agents, and the new patented water-reducing agent which makes practical and easy the use of 120 lbs. of metal per 100 sq. ft.

#### SPECIFICATION

The concrete floor finish shall be hardened with Master Builders Masterplate using not less than (here insert 80 lbs. to 120 lbs. for heavy duty floors) of Masterplate to each 100 square feet of surface. The Masterplate shall be applied and the floor finished and protected in accordance with directions of THE MASTER BUILDERS CO.



● As always, Master Builders service is available to help builders get exactly the kind of floor today's heavy industries require. Steel mills, paper mills, factories and industries of all descriptions are now installing this long-lived low-maintenance floor that will outwear any concrete floor you have ever seen. Further information on request.

## MASTERTEX

### CEMENT PAINT FOR MASONRY SURFACES

● Paints or coatings containing oils will not adhere to wet masonry surfaces. If applied to dry walls that later become wet they saponify and come off. Glues, caseins, etc., are not durable or subject to resistance and alkaline conditions.

Mastertex waterproof cement paint, specially designed for exterior and interior coating of concrete, brick, tile, stucco, stone and other masonry, is applied directly to the wet surface, forms a permanent bond, becomes a part of the wall. It will not blister, peel or flake and its hardness increases with age and with successive wetting. It can be washed or brushed clean repeatedly without being injured.

Not designed for use on floors or on vitrified, enameled, magnesite, gypsum, or lime surfaces.

Standard Colors: Cream, Ivory, Green, Blue, Light Grey, French Grey, Dark Grey.

● Only type of coating that adheres firmly to damp basement walls, swimming pools, garden pools, tanks, tunnels, and other masonry subject to constant moisture. Recommended for inside white on all masonry surfaces, particularly in dairies, laundries and other plants subject to steam, fumes and humidity.







# METALICRON

FOR AVERAGE INDUSTRIAL FLOOR TRAFFIC . . .

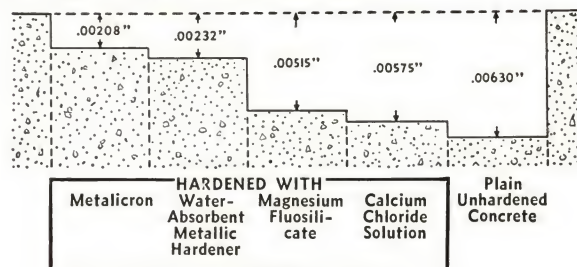
● Wear resistance "teams up" with corrosion resistance in Metalicron hardened concrete floors to create long-lived, economical concrete floors for average industrial use. More than twenty-five years of experience have established the superiority of Metalicron floors, for not only does Metalicron provide a hard, long-wearing "iron" surface but it also provides through its Omicron ingredient a surface impervious to the destructive action of cutting oils and alkalis common in practically every industry. Metalicron is easy to apply, easy to finish and free from dusting and crazing. The list of Metalicron users reads like a "Who's Who" of American industry. Sent on request.

## NON-SLIP METALICRON

The Standard formula is changed to include non-slip aggregate. Specify "Non-Slip Metalicron" for use on ramps, stairs and other areas where non-slip finish is desired.

## ABRASION CHECKED

Concrete specimens subjected to abrasion tests show following relative wear resistance:



## SPECIFICATION

The concrete floor finish shall be hardened with Master Builders Metalicron, using not less than [here specify 30, 40, 50 or 60 (maximum) lbs. per 100 sq. ft. according to weight of traffic to be carried] of Metalicron to each 100 square feet of surface. The Metalicron shall be applied and the floor finished and protected in accordance with directions of the Master Builders Co. (If the non-slip finish is desired, insert the words "Non-Slip" before the word "Metalicron.")

# MASTER MIX

FOR COMMERCIAL and LIGHT DUTY INDUSTRIAL FLOORS

● Master Mix has been the standard integral floor hardener and waterproofer for commercial and light industrial concrete floor finish since 1915.

Ideal for office buildings, laundries, auditoriums, lofts, schools, garages, and similar areas subject to heavy foot traffic or light trucking.

## IMPORTANT CHARACTERISTICS

1. By virtue of its Omicron content, it *reduces* shrinkage while *increasing* plasticity with *reduced* water-cement ratio. The proven result is a dense hard and non-dusting floor.

2. Master Mix Floors are not affected by mild corrosives because Omicron combines with a substantial portion of free lime *throughout* topping.

## SPECIFICATION

All concrete floor finish as designated shall consist of one part standard Portland cement and two parts clean sharp sand and shall be hardened with Master Builders Master Mix used in the proportion of two pounds

## HOW MASTER MIX IMPROVES WORKABILITY



"A" with MASTER MIX—"B" without MASTER MIX

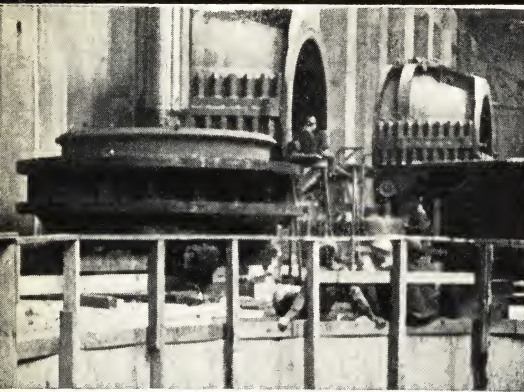
1 part cement to 2 parts sand,  
4¼ gal. water plus 2 lbs. of Master  
Mix. SLUMP, 6½".

1 part cement to 2 parts sand,  
4½ gal. of water. SLUMP, 3".

of Master Mix to every bag of cement. For industrial light duty areas the concrete floor finish shall consist of one part Portland cement and 1½ parts clean, sharp sand and 1½ hard pea gravel or crushed stone graded up to ⅜ inch. Not over 5 gallons of liquid shall be used per sack of cement. Place, finish and protect in accordance with directions of the Master Builders Co.







● At Boulder Dam, massive generating equipment is grouted with Non-Shrink Embeco.



● Preparatory work completed, ready for restoration with Non-Shrink Embeco. Continental Can Co. plant, Baltimore, Md.



● Before: Here, in a vital location, the concrete had disintegrated to a point where the life of the entire structure was endangered.



● After: Embeco repair creates a new wall, stronger, more durable than the original concrete! Perfect bond between old and new concrete. No shrinkage!

NON-SHRINK

**EMBECO** METHOD

**FOR GROUTING—REINTEGRATION—REPAIR**

● Embeco is a metallic aggregate which wholly *eliminates shrinkage in concrete*. Since its development sixteen years ago, Embeco has become the standard specification for grouting, repairing and reintegration in the nation's major industries. An increase of 50% in strength results from the use of Embeco and shrinkage cracks do not appear in mortars whether placed by hand or pressure gun equipment. To the architect or engineer faced with the problem of restoring concrete structures, Embeco offers a safe, simple method of obtaining excellent results.

### CONCRETE BUILDING RESTORATION BY EMBECO METHOD

The non-shrink Embeco method of concrete building restoration has proved successful in many cases where other products and methods have failed. So completely does Embeco eliminate shrinkage that patches and repairs made with it create a perfect bond and a completely sealed base for finishing mortars. Among the hundreds of jobs on which Embeco was used are found the names of many of the nation's leading industries. Time tried, proven, it has steadily grown in favor and acceptance among architects and engineers until today it enjoys leadership in its field.

### SHRINKAGE ELIMINATION MEANS PERFECT BONDING, PERFECT REPAIRS

✓ The unique ability of non-shrink Embeco to completely eliminate shrinkage in concrete has enabled maintenance engineers in the nation's major industries to create really permanent restoration of concrete walls, floors, buildings, grouts, etc. Because non-shrink Embeco does eliminate shrinkage, it forms a perfect bond with the old concrete to which it is applied, building tremendous strength and durability into the original structure. Easy, economical to use, non-shrink Embeco has become a standard specification in the repair and maintenance work of many great industries, railroads and public utilities.

### COMPLETE PICTORIAL SPECIFICATIONS FOR ALL TYPES OF WORK

To simplify the task of the maintenance crew, Master Builders have produced a book of pictorial specifications, showing the step-by-step procedure in the correct use of non-shrink Embeco. So complete and effectively illustrated is this book that we have been forced to re-issue it a number of times to meet the demand of those who wish to know more about this exceptional product. A copy is yours for the asking.

*GROUTING—Machinery, columns, floor grids, etc.*

*REPAIRS—Heavy duty floors, ramps, platforms.*

*REINTEGRATION—Buildings, bridges, dams, etc., by hand-placed or gunned methods.*



**The Master Builders Company**  
CLEVELAND, OHIO





## OTHER MASTER BUILDERS PRODUCTS

Detailed descriptions, technical data and specifications on any of these products sent upon request

### KURO

Kuro is a remarkable, new liquid curing coat with an affinity for fresh concrete which permits application to mass concrete surfaces immediately after form stripping and to floors the day following installation.

Non-colored and inconspicuous, it seals the surface completely, thereby insuring thorough curing. Shown by test to be second only to "moist closet curing" in beneficial effect.

Brushed or sprayed in one coat, covering 1,000 sq. ft. per gallon (U.S.A.)

### SANISEAL

For Floors Already Installed

Master Builders Saniseal is a powerful chemical hardener, which when mixed with water and brushed into the floor surface, deposits in the pores a hard, wear-resisting crystal. This arrests dusting and hardens the surface.

Saniseal is designed as a maintenance or corrective treatment for floors already installed. Not less than 2 lbs. of Saniseal should be used per 100 sq. ft.

### CONCRETE PRESERVATIVE

Protects concrete from the attack of reagents which ordinarily cause rapid deterioration, such as solutions of alkalis, acids and salts. It is a moderately viscous amber liquid of a non-volatile synthetic base, which, when applied on any dry concrete surface, penetrates and fills the pores with a waterproof corrosion resistant. An excellent alkali-resisting priming coat for oil paints to be used on concrete or masonry, as it waterproofs, forming a strong bond between paint and concrete, preventing blistering and peeling. Concrete Preservative is recommended for application to all concrete exposed to severe corrosive conditions, such as floors in food manufacturing plants, bakeries, laundries, concrete tanks and vats, sewers, silos, bottling plants.

### METALLIC WATERPROOFING

Master Builders Metallic Waterproofing is applied to either inside or outside wall surfaces, usually the inside surface. It permanently seals all pores and cracks, and provides a water-tight metal-cement sheath that defies time and elements. Applied as successive brush coats or as a plaster coat, or both, as conditions require.

Metallic Waterproofing is used widely instead of the more expensive and difficult membrane method. One great advantage is the ease with which structural cracks or leaks are located and cheaply repaired. Metallic Waterproofing is a permanent seal for repairing and reintegrating masonry and concrete structures.

### BONDING IRON

For Bonding Separate Top Finish to Hardened Concrete Slab

Bonding to a set slab is largely a matter of workmanship, but results are surer when Master Builders Bonding Iron, specially designed for this purpose, is used. Bonding Iron is applied in a one-coat treatment to the base slab after the surface has been roughened and thoroughly cleaned and saturated with water. The coat oxidizes, providing a waterproof sheath that prevents the dry base from drawing moisture from the topping and provides an additional mechanical key. Approximately 15 pounds per 100 square feet required.

#### Specification

Where a cement finish is to be applied to a set slab, the slab shall be thoroughly roughened with picks and broom cleaned; slab shall then be saturated with water, and a grout of Master Builders Bonding Iron shall be applied exactly in accordance with directions of the manufacturers, The Master Builders Co.

### OTHER PRODUCTS

Caulking Compound—in nine colors and natural.

Plaster Bond—a black, bituminous base adhesive paint.

Foundation Coating—a hydrocarbon waterproofing applied cold to below grade masonry.







*and Services Available Everywhere*

Regardless of your location, there is a Master Builders Field Engineer located nearby to give you prompt, expert assistance in the solution of any problem in the field of concrete or masonry. Please feel free to call upon the representative nearest you for any cooperation.

#### MASTER BUILDERS BRANCH OFFICES

ATLANTA, GA., 511 Bona Allen Bldg.  
Telephone: Walnut 8927  
BALTIMORE, MD., 3312 Moravia-Ave.  
BOSTON, MASS., 80 Boylston St.  
Telephone: Liberty 3351  
BUFFALO, N. Y., 154 West Huron St.  
Telephone: Cleveland 5410  
CHICAGO, ILL., 228 No. LaSalle St.  
Telephone: State 4175  
COLUMBUS, OHIO, 12 No. 3rd Street  
Telephone: Adams 6865  
DALLAS, TEX., 612 Construction Bldg.  
Telephone: 7-3423  
DETROIT, MICH., Michigan Bldg.  
Telephone: Cadillac 5587  
INDIANAPOLIS, IND., 310 No. Illinois St.

KANSAS CITY, MO., 523 Dwight Bldg.  
Telephone: Grand 0940  
LOS ANGELES, CAL., 201 Wm. Fox Bldg.  
Telephone: Vandyke 1619  
MIDDLETOWN, CONN., Central Nat. Bk. Bldg.  
Telephone: Middletown 1003  
MIAMI, FLA., 507 N. E. 1st Ave.  
Telephone: Miami 3-4511  
MILWAUKEE, WIS., 774 No. Broadway  
Telephone: Marquette 3019  
MINNEAPOLIS, MINN., 703 Third Ave. So.  
Telephone: Atlantic 4803  
MONTREAL, QUE., 1434 St. Catherine St. W.  
Telephone: Plato 6720  
NEW YORK, N. Y., 101 Park Ave  
Telephone: Ashland 4-0160

PHILADELPHIA, PA., Lena and Armat Sts.  
Telephone: Rittenhouse 2231  
PITTSBURGH, PA., P. O. Box 115  
Telephone: Wellington 2260  
ROCK ISLAND, ILL., 721 34th St.  
Telephone: Rock Island 3119  
ST. LOUIS, MO., 3548 So. Grand Blvd.  
Telephone: Grand 5511  
SAN FRANCISCO, CAL., Rialto Bldg.  
Telephone: Sutter 1100  
TORONTO, ONT., 96 Bloor St. W.  
Telephone: Randolph 6575  
WASHINGTON, D. C., 807 Chandler Bldg.  
Telephone: National 6303  
WEST LAWN, PA., 2115 Highland St.  
Telephone: Reading 81-9823

#### REPRESENTATIVES

ABILENE, TEX.  
West Texas Tile Co.  
AKRON, OHIO  
Loomis Coal & Supply Co.  
ALBUQUERQUE, N. M.  
A. R. Losh Co.  
AMARILLO, TEX.  
Crowe Lime & Cement Co.  
AUGUSTA, GA.  
Augusta Building Supply Co.  
BALTIMORE, MD.  
Monumental Brick & Supply Co.  
BINGHAMTON, N. Y.  
Binghamton Slag Roofing Co.  
BIRMINGHAM, ALA.  
Thomas Supply Co.  
BUFFALO, N. Y.  
Glob. Plaster Co.  
CALGARY, ALTA.  
Bell & Morris  
CHAMPAIGN, ILL.  
Morris L. Hecker Co.  
CHARLESTON, W. VA.  
Standard Brick & Supply Co.  
CHARLOTTE, N. C.  
A. L. Simpson  
CINCINNATI, OHIO  
Cinder Products, Inc.  
COLUMBIA, S. C.  
F. D. Owen  
CUMBERLAND, MD.  
Young Sales & Engr. Co.  
DALLAS, TEX.  
Macatee, Inc.  
DANVILLE, ILL.  
Builders Supply Co.  
DENVER, COLO.  
Rocky Mountain A. & B. Service  
DUBUQUE, IOWA  
Baumgartner Sales Service  
EL PASO, TEX.  
El Paso Building Material Co.  
EVANSVILLE, IND.  
John L. Newman Co.  
FLINT, MICH.  
Advance Engineering & Sales Co.  
FT. SMITH, ARK.  
Harry G. Barr Co.  
FT. WAYNE, IND.  
Jones & Moss  
FT. WORTH, TEX.  
Sloan Lumber Co.  
GALESBURG, ILL.  
Builders Supply Co.

GREEN BAY, WIS.  
The Gagnon Clay Products Co.  
GREENVILLE, S. C.  
J. C. Plowden  
HAGERSTOWN, MD.  
Victor Cushman & Sons  
HAMILTON, ONT.  
Olmstead & Parker  
HELENA, MONT.  
R. C. Grant  
HOUSTON, TEX.  
Bowles & Stoy  
HUNTINGTON, W. VA.  
Mossman Bros. Co.  
INDIANAPOLIS, IND.  
Spickelmeier Fuel & Supply Co.  
JACKSON, MISS.  
Fred Thrasher  
JOHNSTON, PA.  
John W. Walters Co.  
KANSAS CITY, KAN.  
A. C. Cooke Coal & Cement Co.  
KANSAS CITY, MO.  
C. A. Brockett Cement Co.  
KOKOMO, IND.  
Hansell Coal Co.  
LA CROSSE, WIS.  
Meir Brick Co.  
LANCASTER, PA.  
J. C. Budding Co.  
LANSING, MICH.  
Briggs & Company  
LEXINGTON, KY.  
Clay-Ingels Co.  
LIMA, OHIO  
Kelly Coal & Supply Co.  
LINCOLN, NEB.  
Western Brick & Supply Co.  
LITTLE ROCK, ARK.  
Neville C. Withrow Co.  
LOUISVILLE, KY.  
American Builders Supply Co.  
LUBBOCK, TEX.  
Caylor Brick & Supply Co.  
MANSFIELD, OHIO  
Kalmerton & Baer  
MEMPHIS, TENN.  
Fischer Lime & Cement Co.  
MILWAUKEE, WIS.  
Wisconsin Face Brick & Supply Co.  
MOLINE, ILL.  
Moline Consumers Co.  
MONTREAL, QUE.  
Webster & Sons, Ltd.

NASHVILLE, TENN.  
E. Spencer Benton  
NEW LISKEARD, ONT.  
Hill-Clark-Francis, Ltd.  
NEW ORLEANS, LA.  
Clifford A. King, Jr.  
NIAGARA FALLS, N. Y.  
Empire Bldrs. Sup. Co.  
NORANDO, QUE.  
Hill-Clark-Francis, Ltd.  
NORFOLK, VA.  
Carl F. Woost  
OKLAHOMA CITY, OKLA.  
Bissell Bldrs. Sup. Co.  
OMAHA, NEB.  
Earl S. Lewis & Co.  
OTTAWA, ONT.  
Webster & Sons, Ltd.  
PEORIA, ILL.  
Faber Musser Co.  
PHOENIX, ARIZ.  
Walter Dubree  
PITTSBURGH, PA.  
McCrary Rodgers Co.  
PLATTSBURGH, N. Y.  
Dock & Coal Co., Inc.  
PORT ARTHUR, ONT.  
Ernest A. Gull  
PORTLAND, ORE.  
McCracken-Ripley Co.  
PROVIDENCE, R. I.  
H. H. Horton & Co.  
QUEBEC CITY, QUE.  
Webster & Sons, Ltd.  
RICHMOND, VA.  
Ruffin & Payne, Inc.  
ROANOKE, VA.  
Cinder Block, Inc.  
ROCHESTER, N. Y.  
Geo. A. McNeerney  
Hutchison-Rathbun, Inc.  
ROCKFORD, ILL.  
Skandia Lumber Co.  
ST. JOHN, N. B.  
Gandy & Allison, Ltd.  
ST. LOUIS, MO.  
Heinecke Coal & Materials Co.  
ST. PETERSBURG, FLA.  
E. L. March  
SALT LAKE CITY, UTAH  
Williams & Richardson  
SAN ANTONIO, TEX.  
Rufus A. Walker

SCRANTON, PA.  
Supply & Engineering Co.  
SEATTLE, WASH.  
Tourtelotte-Bradley Co., Inc.  
SHREVEPORT, LA.  
Builders Supply Co.  
SIOUX CITY, IOWA  
Sioux City Brick & Tile Co.  
SIOUX FALLS, S. D.  
Geo. H. Brown  
SOUTH BEND, IND.  
E. R. Newland Co.  
SPOKANE, WASH.  
Building Supply Co.  
SPRINGFIELD, ILL.  
Henry Nelch & Sons Co.  
SPRINGFIELD, MO.  
Kennedy Brick & Steel Co.  
SYRACUSE, N. Y.  
F. J. Ludwick  
TAMPA, FLA.  
Builders Service Co.  
TOLEDO, OHIO  
Kuhlman Builders Supply Co.  
TOPEKA, KAN.  
Hargreaves & Company  
TRENTON, N. J.  
Tattersall Company  
TULSA, OKLA.  
Bissell Builders Supply Co.  
UTICA, N. Y.  
American Hardwall Plaster Co.  
VANCOUVER, B. C.  
The O'Neill Co., Ltd.  
WALKERVILLE, ONT.  
Kenneth E. Shaw  
WASHINGTON, D. C.  
A. P. Woodson Co.  
WICHITA, KAN.  
Spencer Allen Fuel Co.  
WICHITA FALLS, TEX.  
West Texas Engrg. & Supply Co.  
WILKES-BARRE, PA.  
W. H. Pierce  
WILLIAMSPORT, PA.  
Cement Products Co.  
WILSON, N. C.  
J. L. Lawshe  
WINNIPEG, MAN.  
Walker's Limited  
YORK, PA.  
Service Supply Corp.  
YOUNGSTOWN, OHIO  
Youngstown Ice Co.

## THE MASTER BUILDERS COMPANY

7016 Euclid Avenue - - Cleveland, Ohio

IN CANADA: THE MASTER BUILDERS CO., LTD., TORONTO, ONTARIO

Research Laboratories: Cleveland

Factories: Cleveland, Buffalo, Toronto